INFORMATION REPORT

CD NO

DATE DIST 20 JAN 52

SUBJECT Production of Steam Generators, Steam Engines, Steam Turbines, Pumps, Blowers, and Compressors

NO. OF PAGES 6

95

PLACE ACQUIRED

NO. OF ENCLS. (LISTED BELOW)

DATE OF INFO.

25X1

SUPPLEMENT TO REPORT NO

THIS IS UNEVALUATED INFORMATION

1. Fachkommission (FK) Dampferzeugungsanlagen (Technical Commission for Steam Generators)

25X1

25X1 a. This commission will be organized into the following Fachunterkommissionen (FUK) (subcommissions):

25X1

25X1 FUK I: Research and development (Forschung und Entwicklung)

1) Steam boilers (Dampfkessel)

2) Grate firings (Rostfeuerungen)

3) Coke dust firings (Staubfeuerungen)

4) Boiler and cooling plants (Kessel- und Bekohlungsanlagen)

5) Ash removal plants (Entaschungsanlagen)

6) Heating surfaces (Nachschalt-Heizflächen)

7) Feed water plants (Speisewasser-Aufbereitungsanlagen)

8) Embedding and chimney construction (Einmauerung und Schornsteinbau)

FUK II: Production program and capacity (Fertigungsprogramm und Produktions-Kapazität). Including market analysis and distribution

FUK III: Production processes and materials (Fertigungsverfahren und Werkstoffragen)

FUK IV: Standardization and maintenance of quality (Normung und Gütesicherung)

b. The original 1952 plan, which provided for the production of boilers with a total output of 4,000 tons/hr., must be regarded as superseded. A survey of boiler capacity made by VVB EKM (including Bergmann-Borsig, Berlin-Wilhelmsruh, Lindenallee) gave the annual capacity of the industry as 3,100 tons/hr. Various plans for adjustments to this capacity are under consideration.

25X1 2. Fachkommission Dampfmaschinen (Technical Commission for Steam Engines)
25X1

a. The first three vessels of the current series of trawlers have been equipped with 1,000 hp. steam engines built by Görlitzer Maschinenbau (VVB EKM), Görlitz, Lutherstrasse 51 (1). The customer prefers this type of engine, but as its production is hampered by the difficulty of procuring crankshafts, the substitution of 1,000 hp. engines built by Dieselmotorenwerk und Maschinenbau Rostock (VEB), Rostock, Werftstrasse 6-10, or of two coupled 500 hp. engines built by Maschinenfabrik Buckau-Wolf (SAG AMO), Magdeburg-Buckau, is under consideration.

25X1 b.

1) Heavy main ships' engine MES. 7: This was ruled out because of its size and its weight (30 tons).

2) M-boat engine type 43, with low-pressure turbine: Constructional plans for this machine (triple-expansion, 1,200 hp) were available at Görlitz.(2) The delivery of such a machine would take at least a year.

3) Light main ships' engine: Scheiner of the Elbe-Werke Rosslau (VVB EKM), Rosslau/Elbe, Hauptstrasse 117-119, presented plans for a 1,000 hp. unit consisting of two light steam engines, each of 350 hp, and one 300 hp. low-pressure turbine. It was considered that this equipment could not be installed in the current trawler series because of its width. Dirks of VVB Hochseeschiffbau agreed to take units of this type into consideration in the planning of future vessels.

25X1 3. Fachkommission Dampfturbinen (Technical Commission for Steam Turbines)
25X1

a. One Nickel of PKE(3) reported that 15 per cent of the turbine blades so far pressed by the Kabelwerk Oberspree (KWO) (SAG Isolator), Berlin Oberschöneweide(4) had to be returned because of fractures. The KWO was again urged to apply the heat treatment to the blade itself.

b. As difficulties had arisen at Bergmann-Borsig in the soldering of the binding wire, the method used at Görlitz(2), together with the analysis of the silver solder in use there, was to be studied.

c. Haupt of the Turbinenfabrik Dresden (VVB EKM), Dresden N 15, Industriepe-lände A, reported that the available supplies of turbine blade profiles at his plant would soon be used up. Since no delivery was expected from the Poldihütte (Spojene Ocelarny), Kladno, Czechoslovakia, until February 1952, stainless blade steel of DDR manufacture is to be used. Nickel of KWO (sic. See paragraph 3 a above) will make the necessary arrangements with the KWO and with Hoffmann & Motz Stabeisenwalzwerk & Eisenspalterei (VVB Vesta), Finow/Oberbarnim.

d. As blue steel sheets will no longer be available for covering turbines for an indefinite period, galvanized steel sheets are to be used.

e. The delivery plan worked out by the PKE for Görlitz (2) for the year 1952 envisages a turbine output of 102 mw. The capital construction authorized will, however, permit the output of only 90 mw.

4. Fachkommission Pumpen (Technical Commission for Pumps)

25X1 [redacted] cables
25X1 insulated with rubber or synthetic rubber are subject to unforeseen changes.
25X1 Lupolen (sic) insulation only will, therefore, be used for export production. This must be imported from Western Germany. The DDR itself will have to manage with rubber and synthetic rubber insulation.

5. Fachkommission Lüfter (Technical Commission for Blowers)

25X1 [redacted]

25X1 a. The following DDR factories are engaged in the manufacture of blowers:

Turbowerke Meissen (VVB EKM), Meissen, Talstrasse 6	Radial blowers (low, medium, and high pressure) Axial blowers (single and multi-stage) Forced draft blowers (axial and radial) Air conduit blowers (electrical and compressed air)
Erfurter Ventilatoren- und Apparatebau (VVB EKM), Erfurt, Schwerborner Strasse 2	Radial blowers (low, medium, and high pressure) Forced draft blowers (radial)
Maschinenfabrik Erfurt (VVB NAGEMA) (3)	Radial blowers Forced draft blowers (radial)
Luft- und Wärmetechnik Görlitz (VVB NAGEMA) (3)	Radial blowers (only in connection with its own plant)
Mühlenbau Dresden (VVB NAGEMA) (5)	Radial blowers (only in connection with its own plant)
Lufttechnische Anlagen (VVB NAGEMA), Berlin-Lichtenberg, Herzbergstrasse 127	Radial blowers (low, medium, and high pressure) Axial blowers (production will probably cease) Forced draft blowers (radial)
Elektromotorenwerk Plauen (VVB VEM), Plauen, Wielandstrasse 51	Radial blowers (up to 300 mm. input diameter) Axial blowers (up to 600 mm. wheel diameter) Air conduit blowers with electric drive
Junkalor, Dessau (VVB Mechanik) (3)	Radial blowers (low pressure) Axial blowers
Maschinenfabrik Nema (SAG Transmasch), Netzschkau	

b. In the case of corrosive gases, blowers are constructed with leaded, hard rubber, or plastic surfaces. Blowers of acid-resistant steel are also required for certain purposes. These requirements, mostly for exports, generally can not be satisfied because of the shortages of materials.

6. Fachkommission Kolbenverdichter (Technical Commission for Compressors):

25X1 a. The following DDR factories are engaged in the manufacture of reciprocating compressors:

Zwickauer Maschinenfabrik (VVB EKM), Zwickau, Reichenbacherstrasse 25-27	One and two stage air cooled compressors up to 600 cbm/h., 10 atmospheres One to five stage horizontal compressors up to 710 mm. bore Vertical compressors, particularly for oxygen
Bergmann-Borsig (VVB EKM), Berlin-Wilhelmsruh, Lindenallee	Large horizontal compressors over 450 mm. bore
Kompressoren- und Pumpenwerke, Halle (VVB EKM) (6)	Two stage vertical compressors up to 1000 cbm/h., 10 atmospheres; one and two stage vacuum pumps with sliding valves (Schiebersteuerung)
Kompressorenbau Bannewitz (VVB EKM), Bannewitz near Dresden A 20, Ernst-Thälmann-Strasse 35	
Geraer Kompressorenwerk (VVB EKM), Gera, Ernst-Thälmann-Strasse 14	
Apollowerk Gössnitz (VVB EKM), Gössnitz, Ernst-Thälmann-Strasse 26	Small compressors up to 160 cbm/h.
Kompressorenbau Brandenburg (VVB EKM) (3)	High-pressure small compressors up to 100 cbm/h., 80 atmospheres Mobile compressors up to 500 cbm/h., 6 atmospheres
Maschinenfabrik und Eisengiesserei Wurzen (VVB NAGEMA), Wurzen, Dresdner Strasse 38-42	Two to five stage horizontal compressors up to 450 mm. bore Vertical compressors, in particular for oxygen; special compressors for acetylene, salycylic acid gas, chlorine. Dry-running compressors with carbon rings, one and two stage vacuum pumps with rotating sliding valves (Drehschiebersteuerung)
Eisengiesserei und Maschinenfabrik Weissenfels (VVB GUS)(3)	Horizontal wet-air pumps, 150 and 200 mm. Vertical vacuum pumps, 40 to 325 cbm/h, up to 0.25 Torricelli
Lokomotivbau, Elektrotechnische Werke (LEW) (VVB AEM), Hennigsdorf, Neuendorfstrasse	Small compressors, specially built for electric locomotives

The type of production of the Eythraer Maschinenfabrik (VVB EKM), Eythra near Leipzig, is not known, as the firm was not represented at the meeting.

b. The most important immediate task of Fachunterkommission I (Research and development) is the submission of an over-all DDR compressor building program. This will be done under the following headings:

1) Small compressors, up to 160 cbm/h., at 25 atmospheres, for air and gas.

2) Vertical air-compressor up to 600 cbm/h., at 10 atmospheres.

3) One to five stage horizontal compressor for air and gas.

4) Two stage, water-cooled horizontal air compressor.

The Zwickau (3) models N 35 and N 40 are considered necessary in spite of their low revolutions, since they represent the cheapest product within the power-range from 750 to 4000 cbm/h., at 6 atmospheres. It is intended to replace them at a later stage by high speed compressors (as in subparagraph 5) below).

5) One to five stage vertical compressor for air and gas.

6) High-pressure, low-output compressor (up to 160 cbm/h., at 320 atmospheres).

Development will be based on existing types at Nauen (3) and at the Apollowerk Gösnitz.

7) High-pressure compressor of very low output, up to 10 cbm/h. at 320 atmospheres.

8) Compressors for oxygen and other special types.

9) Natural gas compressors, with gas engine drive.

The development of these special compressors for the mineral oil industry (export) will begin at Wurzen (3) in 1952.

10) Valve and sliding valve (Schieber) vacuum pumps.

11) Two stage manually operated compressors.

The GVK (3) will ascertain whether the contructional plans for the type required by the shipbuilding industry are available at the Apollowerk Gösnitz.

c. The valves used in compressor production are mostly produced within the DDR, in Zwickau (3) up to 260 mm. valve-head diameter. The DDR is unable to manufacture

1) Valves for low temperatures (under -50°C), since no suitable alloy steel exists in the DDR.

2) Large valves (over 260 mm. diameter), because of lack of experience and also of suitable materials. Valves of this type have hitherto been imported exclusively from Western Germany and Austria.

d. A construction program was discussed for

1) A stationary two stage compressor of from 12.5 to 250 cbm/h. cylinder capacity; final pressure 25 - 60 atmospheres (series R 10).

2) A stationary, three stage compressor of from 10 to 400 cbm/h. cylinder capacity; final pressure 70 - 300 atmospheres (series R 5).

e. The sizes of compressors required for the shipbuilding program had not been finally decided, but the preliminary requirements were for

1) A compressor of 60 cbm/h. capacity, working pressure 30 atmospheres at 750 revolutions per minute.

2) A compressor of 25 cbm/h. capacity, working pressure 30 atmospheres at 1,000 revolutions per minute.

These types would be adequately provided for by the series mentioned above.

25X1 (1) [redacted] Comment: This plant was listed in the Dresden district telephone book 1950 as belonging to VVB Gesko.

25X1 (2) [redacted] Comment: The concern is not otherwise identifiable; possibly Görlitzer Maschinenbau (see paragraph 2a and Washington Comment (1) above).

25X1 (3) [redacted] Comment: Not otherwise identifiable.

25X1 (4) [redacted] Comment: Now called Werk für Fernmeldewesen HF (Oberspreewerk) (SAG Isolator), Berlin-Oberschöneweide, Ostendstrasse 1-5.

25X1 (5) [redacted] Comment: The Dresden district telephone book 1950 lists Mühlenbau Zschachwitz (VVB MAGEMA), Dresden A 46, Fritz-Schriter-Strasse 40; also Mühlenbau Freital (VVB Magema), Freital near Dresden, Gitterseestrasse 19.

25X1 (6) [redacted] Comment: The Halle district telephone book 1950 lists Hallesche Pumpenwerke (VVB EKM), Halle/Saale, Turmstrasse 91-96. Other information indicates that this concern has been amalgamated with Halle/Saale-Werke (VVB EKM), Halle/Saale, Schimmelstrasse 6.